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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, DC 20554

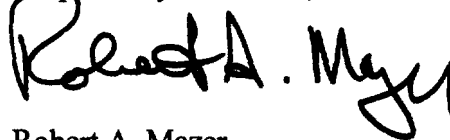
Re: IB Docket No. 96-220
Notice of Ex Parte Presentation

Dear Mr. Caton:

Leo One USA Corporation ("Leo One USA"), by its attorneys, hereby notifies the Commission, pursuant to Section 1.1206 of the Commission's rules, of an ex parte presentation to the FCC's staff held earlier today. Copies of the written materials summarizing the presentation are attached. An original and one copy of this notice are being submitted to the Secretary's Office. The members of the Commission staff who attended the meeting are copied below.

Any questions regarding this matter should be directed to the undersigned.

Respectfully submitted,



Robert A. Mazer
Counsel for Leo One USA Corporation

cc: Paula H. Ford
Julie Garcia
Cecily C. Holiday
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NVNG MSS ISSUES

Leo One USA

January, 1997

NVNG MSS Issues

1. Will the markets to be served by NVNG MSS operators be competitive if limited to only the 1st Round licensees
2. Will currently allocated spectrum allow the introduction of new global near real-time services
 - Sharing with DMSP and NOAA MetSats
 - Sharing with GE Starsys in the 137-138 MHz band
 - Sharing with Orbcomm in the 148-149.9 MHz band
3. How should the NVNG MSS band plan be formulated
4. How should the Commission process pending applications
 - financial qualification
 - auctions

1. Competitive Analysis

Leo One USA used DOJ/FTC Merger Guidelines to define markets

- Service Categories
 - Tracking, Monitoring, Emergency Services, Messages, Transaction Services
- Coverage
 - Global
 - Nationwide: Ubiquitous
 - Nationwide: Non-Ubiquitous
 - Urban: Pockets of Coverage
- Timeliness
 - Outages in coverage of < 5 minutes
 - Outages in coverage of > 5 minutes and < 30 minutes
 - Outages in coverage of > 30 minutes and < 3 hr.
- Costs
 - Separate markets exist if a low cost provider is able to raise prices by 5% and not cause consumers to shift to other products

TRACKING

Tracking

Many Markets for Low-Cost Data Services are not Competitive

- 34% of markets cannot be served by any 1st Round Little LEO System - greatest opportunity for public benefit
- 19% of markets can be served by Orbcomm and STARSYS - duopoly at best, possibly a monopoly
- 47% of markets have varying degrees of competition from multiple suppliers of data services
 - Cellular, Broadband PCS
 - SMR
 - Terrestrial Data Networks

Many Markets Have Few or No Substitutes

- Terrestrial Data Providers
 - can serve many markets as a low-cost provider but have limitations on coverage capabilities
- Geostationary Fixed Satellite Service
 - can serve many markets but have limitations on cost, CPE, global coverage
- Big LEOs
 - can serve many markets but have limitations on cost
- Foreign NVNG MSS Systems
 - no authorization to operate in this spectrum -- many are paper applications or meteorological

Grant of Pending Applications of 1st Round Licensees Will Prevent Introduction of New Competitive NVNG MSS Services

- Grant of modification applications of 1st round licensees will prevent licensing of new systems in the 137-138 MHz downlink band
- Grant of the licensees' requests will prevent second round systems from using the 149.9-150.05 MHz band for feeder uplinks

Grant of New 2nd Round NVNG MSS Licenses Will Serve Public Interest

- New services will be made available to the public that will not be provided by existing licensees
- Introduction of competitive services in markets to be served by Orbcomm and/or GE Starsys
- Economic impact resulting from the construction, launch and operation of approximately 100 new satellites

2. Sharing With Existing Systems in
Currently Allocated Spectrum Will Allow
the Introduction of Global Near Real
Time Services

Sharing Issues

- Sharing with NOAA and DOD MetSats is feasible
- Sharing with Orbcomm in the 148-149.9 MHz band is feasible
- Sharing with GE Starsys in the 137-138 MHz band is feasible

Time Sharing Spectrum with MetSats is Readily Achievable

- Sharing and interference avoidance methodologies are well developed, economical, and readily employed
- Band hopping from one MetSat channel to another MetSat channel will have no cost impact on the Leo One USA subscriber terminals:
 - this capability is inherent in the Leo One USA subscriber terminals irrespective of time sharing with MetSats
 - provision of near real-time requires the use of different downlink channels by the subscriber unit
 - DCAAS requires hopping on uplink

Technical Issues Relating to Time Sharing

- Sharing with NOAA MetSats in the 137-138 MHz Band
 - Concurrent time sharing of TIP & LRPT channels is viable
 - No negative impact of NVNG MSS transmissions on NOAA receivers
 - 48 hour reset signal is unnecessary
 - Protection contours below 5 degree elevation are not warranted
- Sharing with DMSP MetSats in the 400.15-401 MHz Band
 - NVNG MSS System Testing Requirements
 - 90 Minute Command Station Requirements
 - Accurate ephemeris prediction will ensure DMSP protection
 - Protection contours below 5 degree elevation are not warranted

Leo One USA Is Prepared to Respond to Mission Critical Requirements of DoD

- 120 minute command response time is appropriate
- Leo One USA could operate with more accurate orbit prediction algorithm

Sharing with Orbcomm in the 148 - 149.9 MHz Band

- Orbcomm has repeatedly stated that sharing with additional entrants is feasible
- Orbcomm's own analysis indicates additional entry is viable
- A study employing ITU-R approved methodologies* for assessing sharing indicates that multiple system operation in shared U/L spectrum is viable

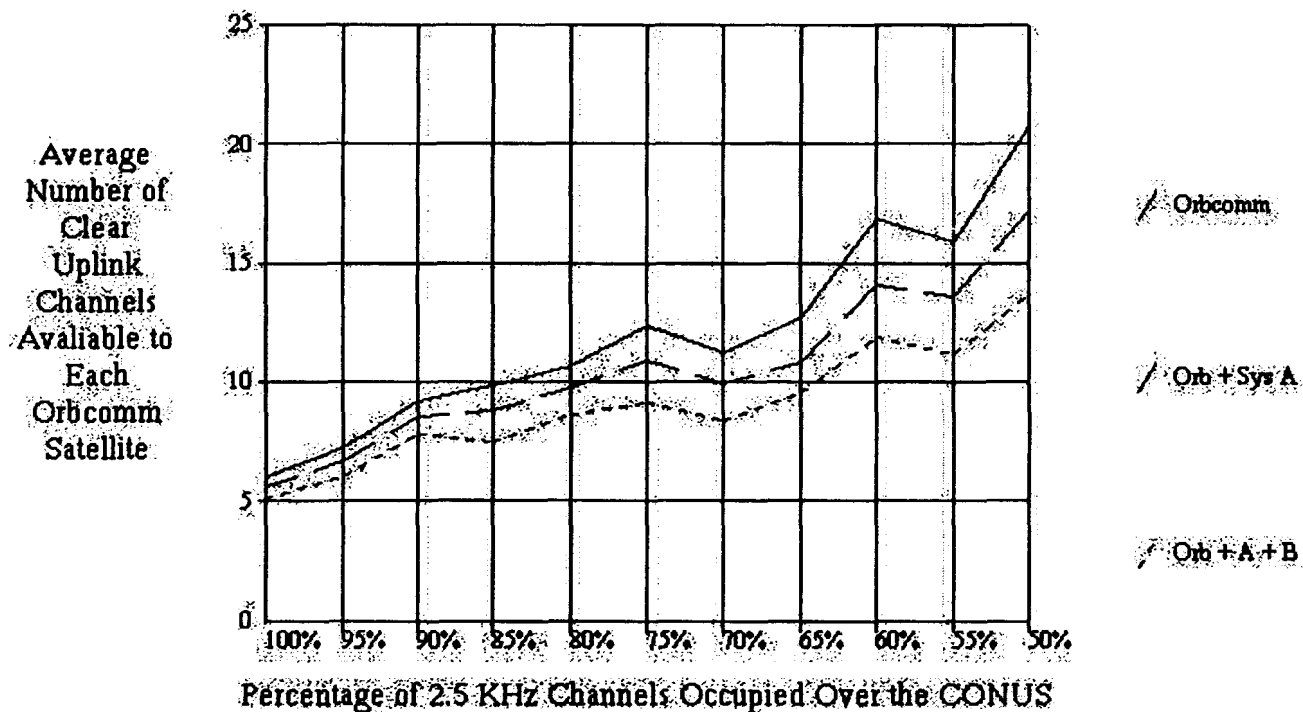
* reference ITU-R M.1039 and ITU-R 8D/Temp/133-E - Methods For Modelling Frequency Sharing Between Stations in the Land Mobile Service Below 1 GHz and Non-Geostationary Satellite Orbit (Non-GSO) Mobile Earth Stations

Simulation Studies Demonstrate Uplink Sharing Feasibility

- Addition of System A and B will not significantly reduce the number of U/L channels available to Orbcomm
- Results based on 1000 simulation trials of 3 equivalent Orbcomm systems
- Orbcomm Data shows 80x2.5 kHz channels unoccupied during busy hour (90% occupancy)
- Satellite footprints only partially overlap
 - different land mobile populations
 - different doppler smearing
- Spectrum utilization increased by a minimum of 150%

Simulation Studies Demonstrate Uplink Sharing Feasibility (cont)

10 KHz MES Uplink Channel Bandwidth



Sharing with GE Starsys in the 137 - 138 MHz Band

- GE Starsys has repeatedly stated to the Commission that additional entry in the 137 MHz band is feasible
- No significant developments have changed Starsys' ability to share throughout the course of statements to the Commission
 - Leo One USA submitted a detailed analysis of this issue in its reply comments (ref Appendix E)

3. The Band Plan

The Commission should adopt a Band Plan that will allow the introduction of new NVNG MSS systems capable of providing near real-time services to terrestrial, aeronautical and maritime users around the world.

Remaining Spectrum Should be Assigned to Enhance Competition

- Near real-time systems must be licensed
 - Commentors agree that near real-time services provide the greatest public benefit in serving customer demand
 - Near real-time systems (continuous coverage) quantifiably demonstrate the most efficient use of public spectrum resources
 - smaller systems with coverage gaps do not maximize potential use of spectrum e.g. a paging company with a nationwide license that chooses to only buildout a few markets in effect warehouses spectrum relative to a 2nd paging company that builds a large number of markets reusing the same quantity of spectrum
- Licensees must be able to offer worldwide coverage
- Licensees must be on equal footing in terms of the ability to serve terrestrial, aeronautical and maritime users

The Commission's Proposal for Little LEO Systems 1, 2, & 3 Can be Improved Upon in the Interest of Maximizing the Public Benefit

- System 1 has too little capacity to be economically viable
 - 5.7% of the capacity Orbcomm
- System 2 is non-optimal
- System 3 has too little U/L capacity to be economically viable and is competitively handicapped
 - 16% of the capacity of Orbcomm
 - prohibited from serving 2 out of the 3 possible service categories
 - terrestrial - yes
 - maritime - no
 - aeronautical - no

Spectrum Requirements for Deploying a Near-Real-Time Constellation

- A near real-time constellation requires a large number of satellites to support continuous coverage
 - Leo One USA plans to deploy 48 satellites
- Overlapping footprints resulting from continuous coverage requires sufficient spectrum to manage self interference
- The large investment in infrastructure required to achieve continuous coverage requires sufficient system capacity to generate a return on investment

Two-Orbit Constellation With DMSP Satellites

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Abstract

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Licensees Must be Able to Offer Worldwide Access to Terrestrial, Aeronautical, and Maritime Service Users

- All Downlink Spectrum is Allocated Worldwide for the 3 Service Categories
 - Terrestrial, Aeronautical and Maritime
- Uplink Spectrum is Allocated both Worldwide and Regional and varies in its ability to address the 3 service categories
 - WRC92 spectrum is Worldwide but varies in service limitations
 - WRC-95 spectrum is Region 2 only but has ability serve all categories

U/L Spectrum Characterization

WRC	Geographic Authorization	MHz	- Worldwide - Service Authorization			- Region 2 Only - Service Authorization		
			Terrestrial	Aeronautical	Maritime	Terrestrial	Aeronautical	Maritime
'92	Worldwide	148 - 149.9	Yes	Yes	Yes	Yes	Yes	Yes
'92	Worldwide	149.9 - 150.05	Yes	No	No	Yes	No	No
'95	Worldwide	399.9 - 400.05	Yes	No	No	Yes	No	No
'95	Region 2 only	455 - 456	No	No	No	Yes	Yes	Yes
'95	Region 2 only	459 - 460	No	No	No	Yes	Yes	Yes

- The 148 - 149.9 MHz Band is the only U/L spectrum that can serve all 3 Service categories on a worldwide basis
- It is imperative that competition not be eliminated by precluding any one licensed provider from addressing the full marketplace through an unfair distribution of available spectrum
- The 148 - 149.9 MHz band must be made available to all new entrants